

In the Claims:

1. (Currently Amended) An acetabular reamer for surgical use, the reamer comprising:

- (a) a hemispherical, hollow dome extending from an apex to a lower edge defining a plane at a theoretical equator of the hemispherical dome; and
- (b) an interface structure comprising at least one cross-bar entirely fixedly attached to the inside of the dome at intermediate locations between the theoretical equatorial plane of the hemispherical dome and the apex so that the interface structure comprising the at least one cross-bar is positioned inwardly from the lower edge defining the theoretical equatorial plane and within the dome.

2. (Cancelled)

3. (Previously Presented) The acetabular reamer of claim 1, wherein the dome has at least one substantial section removed so as to reduce a static insertion profile of the reamer, as compared to a dynamic profile, in order to facilitate surgery which is relatively less invasive than a surgery performed with a comparable reamer not having the removed sections.

4. (Previously Presented) The acetabular reamer of claim 1, wherein a plurality of sections of the dome are removed so as to reduce a static insertion profile of the reamer in order to permit surgery which is relatively less invasive than a surgery performed with a comparable reamer not having the removed sections.

5. (Previously Presented) The acetabular reamer of claim 4, wherein the removed sections are equally spaced about the equator of the dome.

6. (Cancelled)

7. (Previously Presented) The acetabular reamer of claim 1, wherein the cross-bar is fixedly attached to the inside of the dome along a latitudinal plane.

8. (Previously Presented) The acetabular reamer of claim 3, wherein the removed section renders the dome asymmetrical.

9. (Cancelled)

10. (Previously Presented) The acetabular reamer of claim 1, wherein the interface structure comprises at least two cross bars in the form of a cross with the bars having their respective ends fixedly attached to the inside of the dome spaced 90° from each other at locations between the theoretical equatorial plane and the apex.

11. (Previously Presented) The acetabular reamer of claim 1 wherein the cross bar comprising the interface structure has a central centering boss.

12. (Cancelled)

13. (Currently Amended) A surgical reamer assembly, comprised of:
- (a) a hemispherical, hollow dome extending from an apex to a lower edge defining a plane at a theoretical equator of the hemispherical dome;
 - (b) an interface structure comprising at least one cross-bar entirely fixedly attached to the inside of the dome at intermediate locations between the theoretical equatorial plane of the hemispherical dome and the apex so that the interface structure comprising the at least one cross-bar is positioned inwardly from the lower edge defining the theoretical equatorial plane and within the dome; and
 - (c) an angled reamer spindle having a coupling, wherein the reamer and the spindle are detachably attachable to each other via the inset interface structure and the coupling, the assembly providing for comparably minimum invasiveness of orthopedic surgery.

14. (Previously Presented) An acetabular reamer for surgical use, the reamer comprising:

- (a) a hemispherical, hollow dome extending from an apex to a lower edge defining a plane at a theoretical equator of the hemispherical dome; and
- (b) an interface structure comprising a shaft having a proximal end secured to an inner surface of the dome at the apex and extending to a distal end supporting at least two radial spokes extending therefrom in a radial spokes plane within the dome at an intermediate location between the theoretical equatorial plane of the hemispherical dome and the apex, wherein each radial spoke has a proximal end attached to the shaft and a

distal spoke end spaced from an inner surface of the dome.

15. (Previously Presented) The acetabular reamer of claim 14 wherein the interface structure comprises four radial spokes extending from the distal end of the shaft along the radial spoke plane.

16. (Previously Presented) The acetabular reamer of claim 15 wherein the four radial spokes are disposed at 90° with respect to each other.

17. (Previously Presented) The acetabular reamer of claim 14 wherein the radial spokes plane is parallel to the equatorial plane so that the interface structure is completely within the dome.

18. (Previously Presented) The acetabular reamer of claim 14 wherein the dome has at least one substantial section removed so as to reduce a static insertion profile of the reamer, as compared to a dynamic profile, in order to facilitate surgery which is relatively less invasive than a surgery performed with a comparable reamer not having the removed section.

19. (Previously Presented) The acetabular reamer of claim 14 wherein a plurality of sections of the dome are removed so as to reduce a static insertion profile of the reamer in order to permit surgery which is relatively less invasive than a surgery performed with a comparable reamer not having the removed sections.

20. (Previously Presented) The acetabular reamer of claim 18 wherein the removed sections are equally spaced about the equator of the dome.

21. (Previously Presented) The acetabular reamer of claim 18 wherein the section renders the dome asymmetrical.

22. (Previously Presented) A surgical reamer assembly, which comprises:

- (a) a hemispherical, hollow dome extending from an apex to a lower edge defining a plane at a theoretical equator of the hemispherical dome;
- (b) an interface structure comprising a shaft having a proximal end secured to an inner surface of the dome at the apex and extending to a distal end supporting at least two radial spokes extending therefrom in a radial spokes plane parallel to the equatorial plane so that the interface structure is completely within the dome at an intermediate location between the theoretical equatorial plane of the hemispherical dome and the apex, wherein each radial spoke has a proximal end attached to the shaft and a distal spoke end spaced from an inner surface of the dome; and
- (c) an angled reamer spindle having a coupling, wherein the reamer and the spindle are detachably attachable to each other via the inset interface structure and the coupling, the assembly providing for comparably minimum invasiveness of orthopedic surgery.